Space Weather Forecast

Issued on Tuesday, 28 March 2023 at 00:08 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

---

Space Weather Forecast Headline: Chance of R1 Minor radio blackouts.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity has been Low over the past 24 hours, with occasional minor common class flares recorded at GOES16. There are now eight numbered on the visible disc. There is a spot in the southwest of the disc which remains the only magnetically complex region, with all other regions relatively small, stable and magnetically simple. No Earth-directed coronal mass ejections (CMEs) were observed in available coronagraph imagery.

Solar Wind / Geomagnetic Activity: The solar wind showed Earth transiting out of the negative polarity High Speed Stream from coronal hole 86. The solar wind speed fell from elevated, back down to the current slow-ambient levels. The interplanetary magnetic field was weak over the 24 hours, with the north-south component varying between weakly negative and weakly positive. The net result of the above solar wind measures was for Quiet (Kp 0-2) geomagnetic activity.

Energetic Particles / Solar Radiation: No solar radiation storms were observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is most likely to remain low, but with a chance of becoming Moderate with any isolated Moderate-class X-ray flares. The main region likely to give such flares is the largest and most complex in the southwest.

Solar Wind / Geomagnetic Activity: No Earth-directed coronal mass ejections feature in the forecast. Solar winds are expected to remain at background levels during the next few days. The next coronal hole (CH88) and its fast wind is expected to impact Earth possibly late on day 3 (30th) and into day 4 (31st).

Quiet to Unsettled (Kp 0-3) geomagnetic activity is expected through the period. Later on day 3 (30th) and into day 4 (31st), should the fast wind from coronal hole 88 arrive, geomagnetic activity may increase to Unsettled with Active intervals and a Chance of G1/Minor geomagnetic storms.

Energetic Particles / Solar Radiation: No solar radiation storms are expected, but there remains a slight chance of reaching S1 or greater, should any significant flares occur.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2023. All Rights Reserved.

Met Office

Space Weather Forecast

Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	1	1	30	40
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	30	30	30	30
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	5	5	5	5
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2023. All Rights Reserved.